

634-015

Dart Aerospace Ltd.

Date: Thursday, 23/10/2008 1:25:41 PM  
 User: Julie Dawson

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : SKID TUBE ASSEMBLY
Job Number : 42900A	
Estimate Number : 12520	
P.O. Number :	Part Number : D205634045
This Issue : 23/10/2008 S.O. No. :	Drawing Number : D2580 REV D
Prsht Rev. : NC	Project Number : N/A
First Issue : 11 Type : SKIDTUBES	Drawing Revision : D
Previous Run : 42899A	Material :
Written By :	Due Date : 01/02/2009 Qty: 1 Um: Each
Checked & Approved By : <u>JLD 08.10.23</u>	
Comment : Est Rev:C Revised Steps 06-09-06 JLM	
Est Rev:D Added SS Wearplates & Gaskets 07-07-09 JLM	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Photocopy D205-634 bluefile &amp; type labels per PPP D205-634-045 CHG002

2.0	D25001190	Ext'n -1' Beam Tube 4"
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2500-1-190	Skid Tube Extrusion	B-37544

/MB 08-11-17

3.0	D2596	Web, 205 Skidtube
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2596	205 Web	43274

Jb 8-11-27

4.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1

1- Inspect mat'l D2500-1-190 for damage

2-Cut D2500-1-190 per Dwg D2580 if necessaryDeburr ends

3-Drill pilot holes using drill jig DT 8149 Jp 8-11-27

4-Acid etch and Alodine tube per QSI 005 4.1

/MB 08-11-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Job Number: 42900A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description :

5-Open holes to 0.500" as per Dwg D2580without cutting fluid

6-Countersink holes as per Dwg D2580without cutting fluid

7-Deburr and blow out all chips from inside of tube

8-Add extra holes to web prior to bonding, per DEO 9183

9-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick:

Qty	Part Number	Description	Batch
A/R	Sikaflex-291	109883	
Sikaflex expire date: 9-7-1			
Start Time: 1530		Date: 8-11-27	
Fin Time:		Date:	

JP 8-11-27

5.0

BENDING

BENDING MACHINE - SKIDTUBES



Comment: BENDING MACHINE

1-Bend as per program D2580.C on CNC Bender and Folio FT009

2-Cut tubes as per Dwg. D2580

JP 8-11-28

6.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Deburr ends after cutting. Remove alodine from around holes

2-Drill extra fwd hole as per DEO 9183 using  
drill jig DT8461

3-Drill extra middle hole as per DEO 9183 using  
drill jig DT8462

4-Drill pilot holes for aft cap using DT8215, \*\*\*DO NOT OPEN TO FINISH SIZE\*\*\*

5-Drill extra aft holes as per DEO 9183 using  
drill jig DT8463 locating from aft cap hole and aft saddle hole.

JP 8-12-1

Pb

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D205 634-045 PAR #: 11A Fault Category: Prod / Skidube NCR: Yes No DQA: D Date: 09/11/07  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: <u>08-116</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
8/12/9	# 6-0	The AFT holes per DCO 9183 are not as per dwg. Hole spac is off. Missed upon inspection. RL Sig DT 8463 is incorrect * Local attention	Posiur	- See NCR 08-116 <u>M105671</u> - Fabricate Qty 4 of 0.5 x 0.15 with a 0.086" chamfer 45°	08/12/09	S 08/12/11	Posiur	S 08/12/09
				- <u>Grains Flush</u>	08/12/09			
			Posiur	- Use 6061 Plugs in to place Per AS7004 p/2 <u>M109560</u>	08/12/09	S 08/12/11	Posiur	S 08/12/09
				Grains Flush out end of engine	08/12/09			
			Posiur	Mark holes out per Dwg + Drill	08/12/09	S 08/12/11	Posiur	S 08/12/09
				SPACERS B 241666 x 2 weld spacers as AS7004	08/12/09			

NOTE: Date & initial all entries

\* See Sheet after weldin test Report

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Job Number: 42900A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description :

7.0

QC5

INSPECT WORK TO CURRENT STEP



*BE 08/12/09*

Comment: INSPECT WORK TO CURRENT STEP

*S 08/12/09*

8.0

D25763

Step (maching detail)



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2576-3	Step	<i>BE 08/12/09</i>

9.0

D2579

Crossbolt Spacer



Comment: Qty.: 24.0000 Each(s)/Unit Total : 24.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
24	D2579	Spacers	<i>BE 08/12/09</i>

*BE 08/12/09*

10.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Prepare tube for welding D2576-3 StepRemove alodine as required. *BE 08/12/09*

2-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R

Aluminum Rod

*m/02560*

*BE 08/12/09*

3-Weld crossbolt spacers D2579 as per Dwg. D2580 and QSI 004. For D2579

spacers, weld one

side, pass 3/8" drill, weld other side, pass 3/8" drill

A/R

Aluminum Rod

*m/02560*

*BE 08/12/09*

4-Grind welds as per Dwg D2580 Grind flush ridge made from bending

5-Drill holes for wearplates using DT 8217Open holes to 19/64", adjust stopper not to hit web. Deburr

6-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Deburr holes

\*\*\*\*\*DO NOT COUNTERBORE EXTRA HOLES PUT IN AT STEP 13,14 AND 15 (LEAVE AT 0.384"Ø AS PER DEO 9183)\*\*\*\*\*

7-Open aft cap holes to #6 Drill bit. Deburr

8-Drill pilot holes for Tow ring using DT8091, open to .640"and Deburr

*BE*  
*Prm 08-12-10*

*AW*  
**Dart Aerospace**  
**W/O**

## WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Job Number: 42900A

Part Number: D205634045

Job Number:



Seq. #: Machine Or Operation: Description :

11.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

08/12/11 (X)

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/12/11 (X)

13.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Pressure wash as per QSI 005

08-12-18 (X)

14.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat \*\*\*\*GREEN\*\*\*\*Sandtex (Ref: 4.3.5.8) as per QSI 005 4.3

START TIME: 3:45

OVEN TEMPERATURE: 320 OF

FINISH TIME: 4:15

M.D. 08/12/18

15.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08-12-19 (X)

16.0

D2855

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Cap

Batch: B42806

M

17.0

AN35A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Bolt

Batch: M100188

M

08-12-19 (X)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Job Number: 42900A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

AN960JD10L

Washer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

Batch: M105793

JU

19.0

AN960C10L

washer



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

washer

batch M109798

JU

20.0

ALS71032130

Insert



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

Insert

Batch: M105819

JU

\*

21.0

AN3C4A

BOLT



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

BOLT

Batch: M110002

JU

22.0

D356613

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B42147

JU

23.0

D35665

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B43710

JU

24.0

D35661

Gasket



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

GASKET

Batch: B43709

JU

08-12-18

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Job Number: 42900A

Part Number: D205634045

Job Number:



Seq. #:	Machine Or Operation:	Description :
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25.0	D356413	Wearshoe
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B 42257

*JD*

26.0	D356411	Wearshoe
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B 43707

*JD*

27.0	D35649	Wearshoe
------	--------	----------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B 42258

*JD*

28.0	D35645	Wearshoe
------	--------	----------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B 43408

*JD*

29.0	D25943	O-Ring, 205 Skidtube
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Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

O-Ring

Batch: B 29908

*JD*

30.0	D25941	Plug, 205 Skidtube
------	--------	--------------------



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Plug

Batch: B 35919

*JD*

31.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearplates as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R

Sikaflex-291

M110110

*JD*

08-12-19

*JD*

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Drawing Name: SKID TUBE ASSEMBLY

Job Number: 42900A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description :

1 Sikaflex expire date: 09/07

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

4/R Sikaflex-291 M110110  
Sikaflex expire date: 09/07

08.12.1907

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch:

M189917

M-1

08/12/22

32.0

QC5

INSPECT WORK TO CURRENT STEP



M 08 12 23

(1)



Comment: Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

33.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-045

Location:

PPP Rev:

42900

09/01/07

34.0

QC21

FINAL INSPECTION/W/O RELEASE



(1)

Comment: FINAL INSPECTION/W/O RELEASE

09/01/07

Job Completion



W 08.01.07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

**DART**

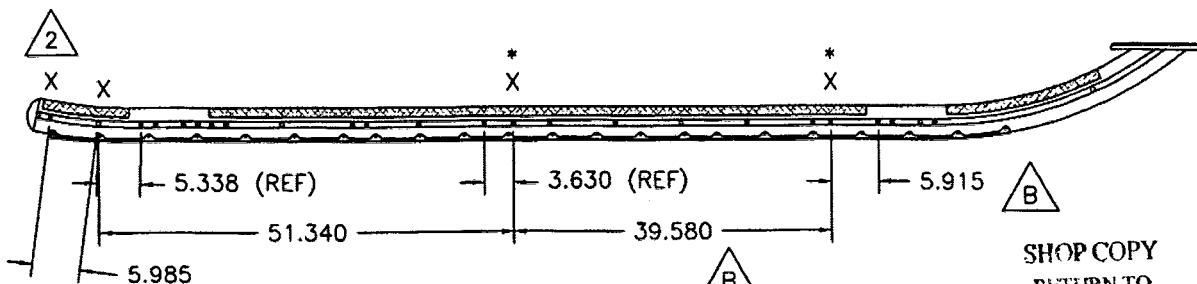
DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. DEO 9183	REV. B SHEET 1 OF 1
DATE 00.05.15	TITLE ADD SKIDTUBE P/N D2580-045		SCALE NTS
A	00.03.29	NEW ISSUE	
B	00.05.15	39.580 WAS 39.620	

## DART ENGINEERING ORDER

AMEND DRAWING D2580 REV. C TO ADD D2580-045 ASSEMBLY

D2580-045 IS IDENTICAL TO D2580-041, EXCEPT FOR THE FOLLOWING CHANGES:

- 1) INSTALL CROSS BOLT SPACERS AT LOCATIONS MARKED 'X' ACCORDING TO THE FOLLOWING PROCEDURE.
  - a) DRILL  $\varnothing 0.508$  HOLES AT LOCATIONS SHOWN BELOW MARKED 'X'. CHAMFER HOLES  $0.030 \times 45^\circ$ . NOTE THAT HOLES WILL ALSO HAVE TO BE TRANSFERRED TO THE D2596 WEB AT THE \* LOCATIONS. IT IS ACCEPTABLE TO PRE-DRILL THE D2596 WEB IN THESE LOCATIONS BEFORE INSTALLING THE WEB IN THE SKIDTUBE. OPEN HOLES TO  $\varnothing 0.63$  AND TOUCH UP WITH ALODINE PER QSI 005 4.1.
  - b) INSERT D2579 CROSS BOLT SPACERS INTO THE HOLES.
  - c) WELD INTO PLACE PER DART QSI 004 AND GRIND FLUSH.
  - d) REMOVE SPILL OVER LEAVING HOLE DIMENSION  $\varnothing 0.380$ - $\varnothing 0.390$ .
- 2) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION.
- 3) POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 INSTEAD OF WHITE (REF. 4.3.5.1).



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WORK ORDER  
NO. 429007

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**DART**

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. DSI 9184	REV. A SHEET 1 OF 1
DATE 00.03.29		TITLE ADD SKIDTUBE P/N D205-634-015 SCALE NTS	
A	00.03.29	NEW ISSUE	

## DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D205-634 REV. B.

REF. CANADIAN STA: SH96-88  
US FAA STC: SR00563NY

ADD D205-634-015 INSTALLATION. PARTS LIST IS IDENTICAL  
TO PARTS LIST FOR D205-634-011 EXCEPT THAT:  
D205-634-045 REPLACES D205-634-041  
D2580-045 REPLACES D2580-041

THE DIFFERENCE BETWEEN D205-634-011 (D205-634-041)  
AND D205-634-015 (D205-634-045) IS THAT EXTRA  
SPACERS HAVE BEEN ADDED AT LOCATIONS MARKED 'X' AND  
ASSEMBLY IS PAINTED GREEN.



D205-634-015 (D205-634-045)

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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**DART****RELEASED**  
07-06-28 #

DESIGN #	DRAWN BY RH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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Diagram illustrating the cross-section of a circular beam with four vertical reinforcement bars. The diameter is 16 inches. The distance between the centerlines of the bars is 3.500 inches. The distance from the centerline of each bar to the inner edge of the concrete is 1.750 inches. The bars are shown with hooks at the top and bottom.

RELEASED  
07-06-28

Diagram illustrating the underside of a component, showing grinding locations and features:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576
- $\sqrt{\frac{1}{4}}$

5

D2579 SPACER

D2596 WEB (REF)

ALS7-1032-130 (REF)  
(TYP 50 PLACES)

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR  $\phi 0.508$  HOLES ONLY:

1. CHAMFER HOLE  $0.050 \times 45^\circ$
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO  $\phi 0.437 \times 1.00$  DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

37.50  
DISTANCE TO AFT END  
OF D2596 WEB

3  
7

1.750 1.750

0.508 (TYP.)  
(40 PLACES)

REFER TO DETAIL A

8.750 17.375 26.000 34.188 57.313 (REF)  
7 EQUAL SPACES  
8.188 PITCH

38.0 91.500 190.0  
(D2500-1)

REFER TO DETAIL A

Technical drawing of a road cross-section showing a 4% grade and a 20.0m curve radius. The drawing includes dimensions for the distance between the hole and the tangent point (1.0m), the distance between the hole and the tangent point (13.4m), the distance between the hole and the tangent point (32.0 ± 1.0m), and the distance between the hole and the tangent point (11.5m). The drawing also shows a 1.4m offset and a 0.640m offset.

[illegible]

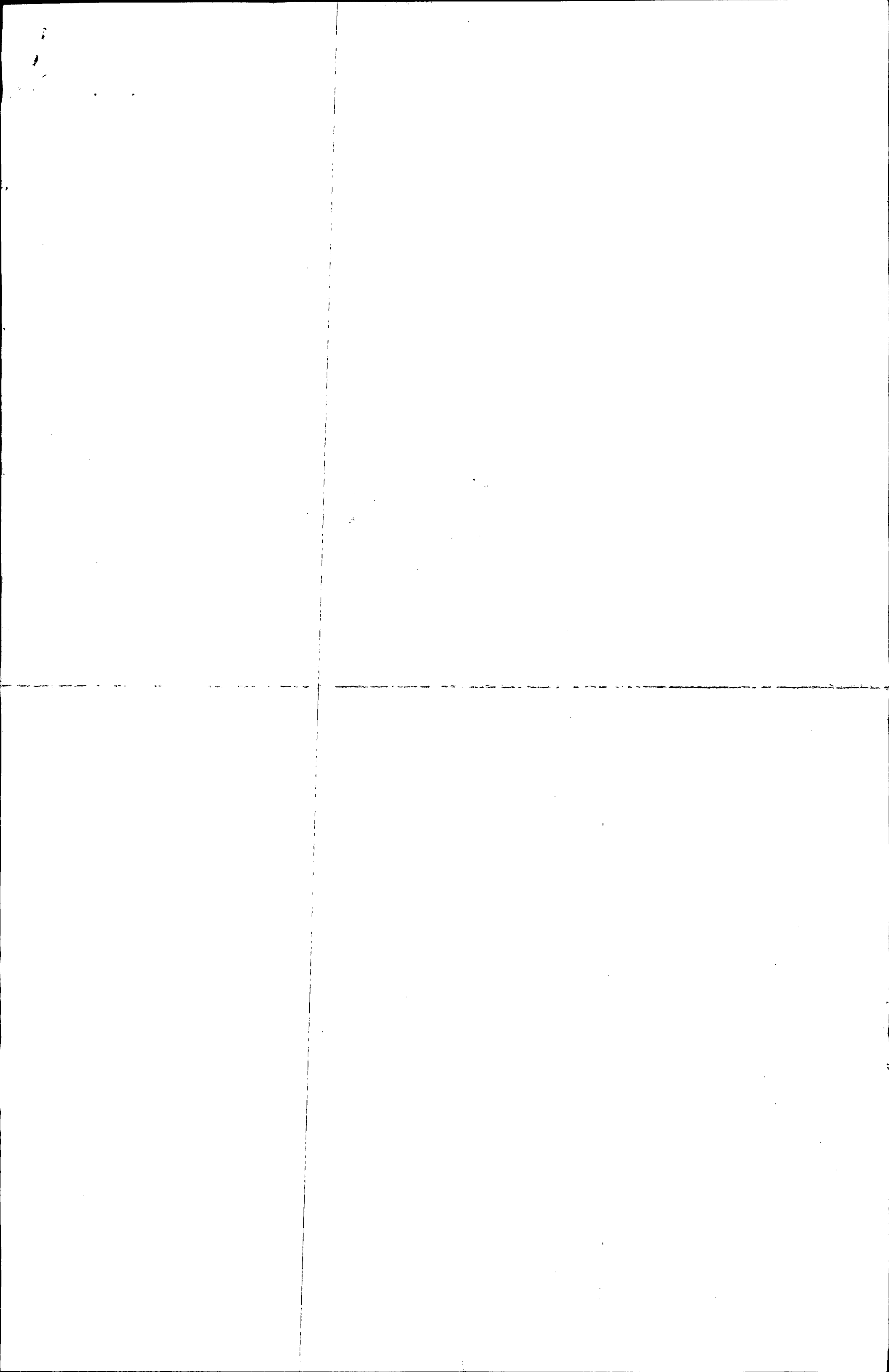
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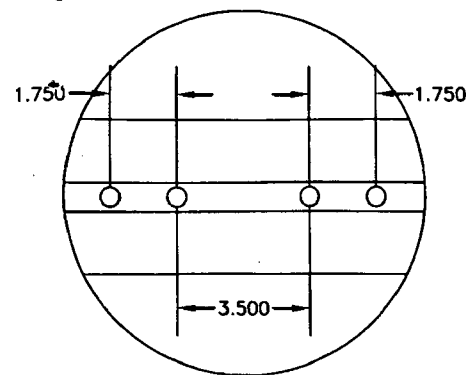
1

205 SKIDTUBE ASSEMBLY

ASSEMBLY 1:24

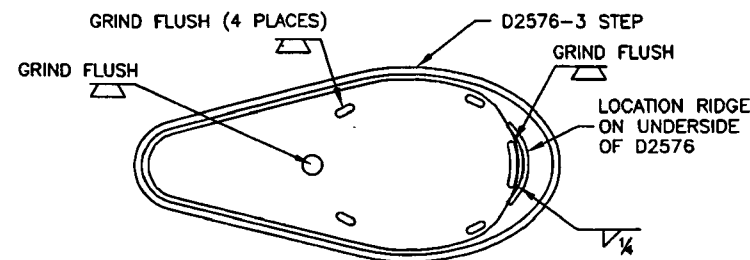


**DETAIL E**  
SCALE 5:24

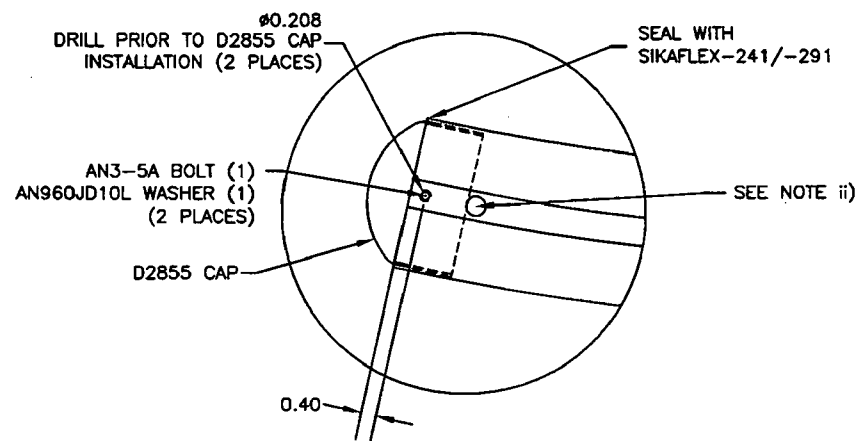


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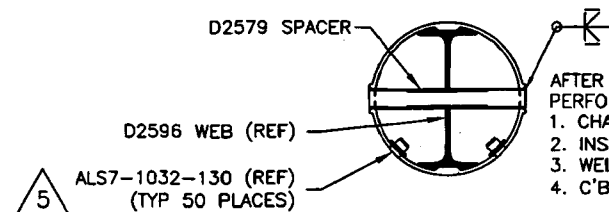
**DETAIL F**  
SCALE 5:24



**DETAIL G**  
SCALE 5:24



**SECTION H-H**  
SCALE 5:24

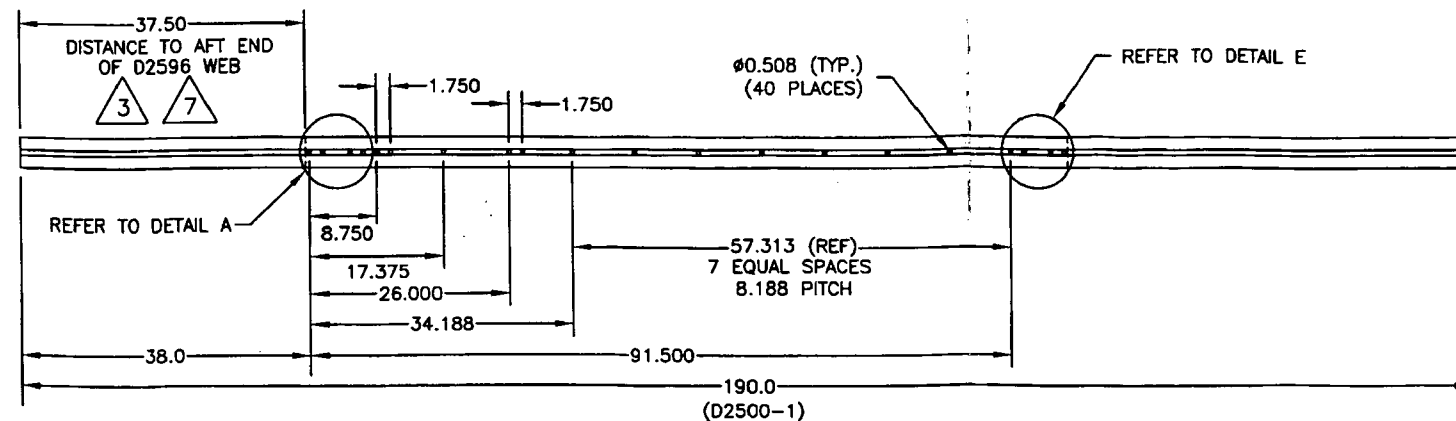


AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:  
1. CHAMFER HOLE 0.050 X 45°  
2. INSERT D2579 SPACER (20 PLACES)  
3. WELD INTO PLACE AND GRIND FLUSH  
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

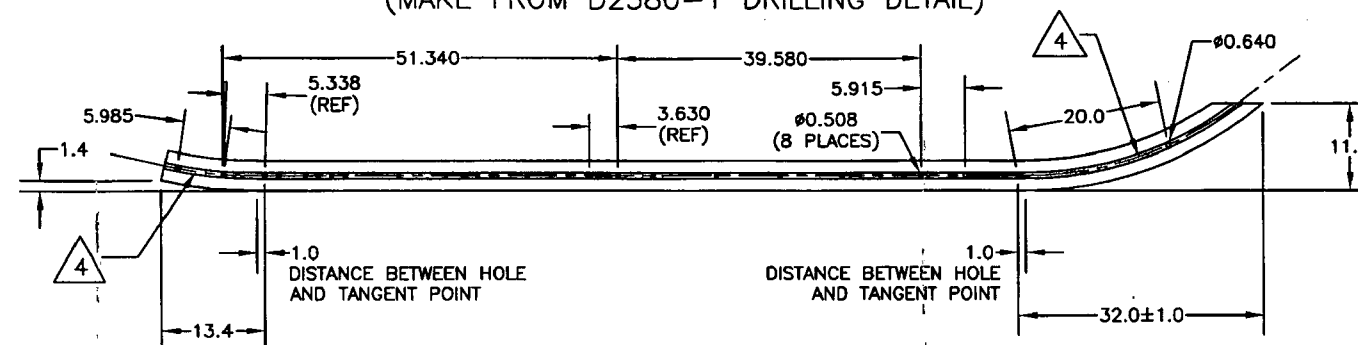
**D2580-045 NOTES**

- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

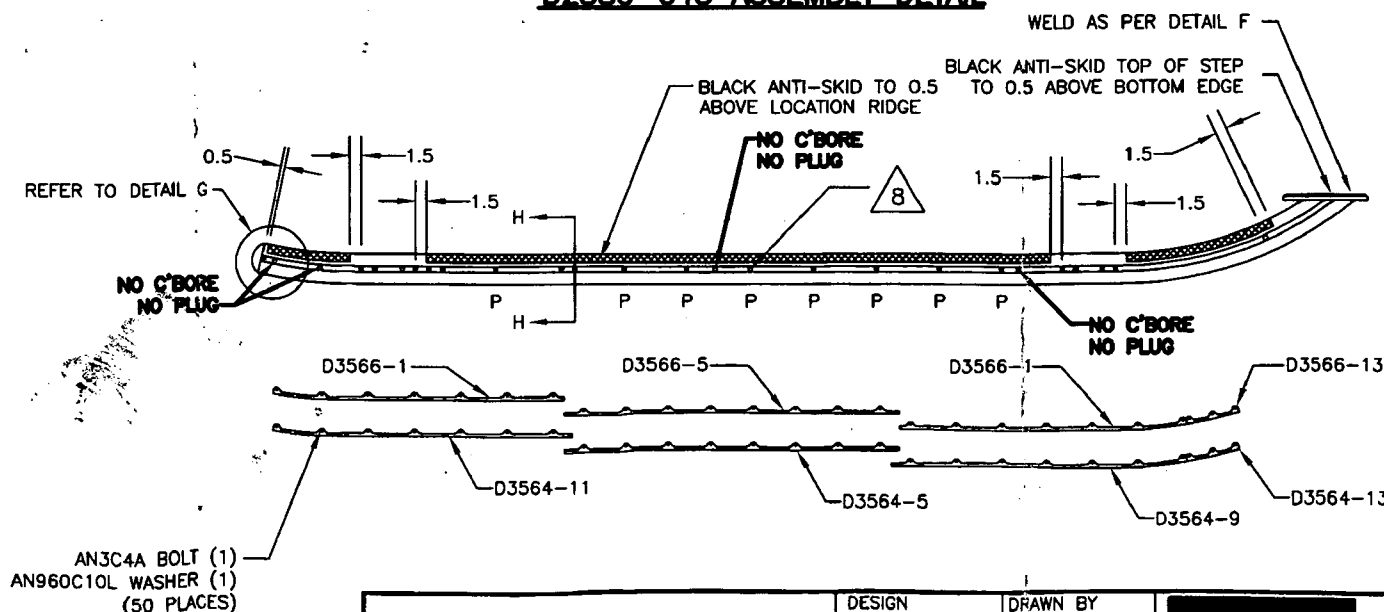
**D2580-1 DRILLING DETAIL**



**D2580-5 BENDING AND CUTTING DETAIL**  
(MAKE FROM D2580-1 DRILLING DETAIL)



**D2580-045 ASSEMBLY DETAIL**



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DESIGN RH	DRAWN BY RH	<b>DART</b>	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED H	APPROVED H	DRAWING NO. D2580	REV. D SHEET 3 OF 3
DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24	



NO. 182

**AWS D17.1.2001**  
**QUALIFICATION TEST RECORD**

Name: Barclay Elliot  
Job number: B43240 A  
Part number: A205 64 041  
Description: 205 Skid tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Alum.  
Current: AC[☒] DC[ ]

**TEST REQUIREMENTS AND RESULTS**

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

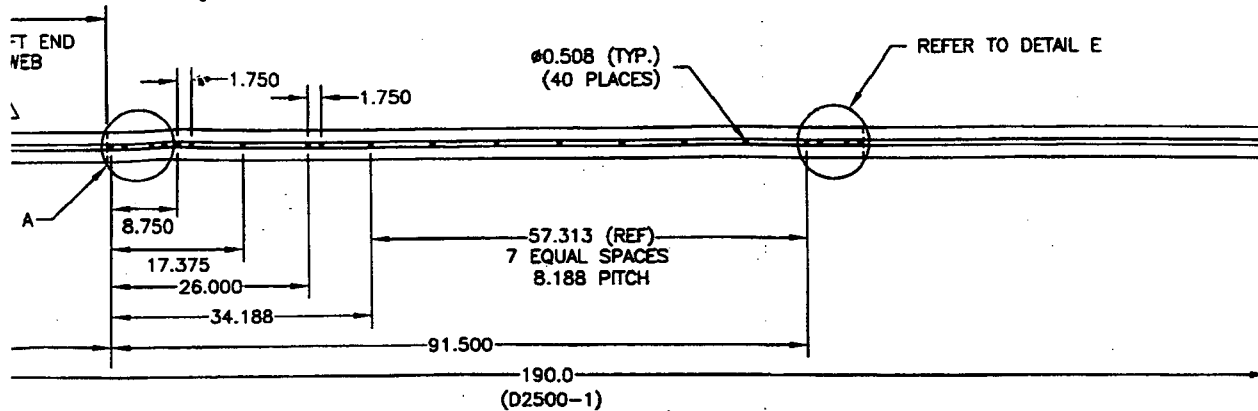
**UNACCEPTABLE**

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier David Duval Date of Test Coupon 08/11/20  
Welder Barclay Elliot Date of Test Coupon 08/11/20

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

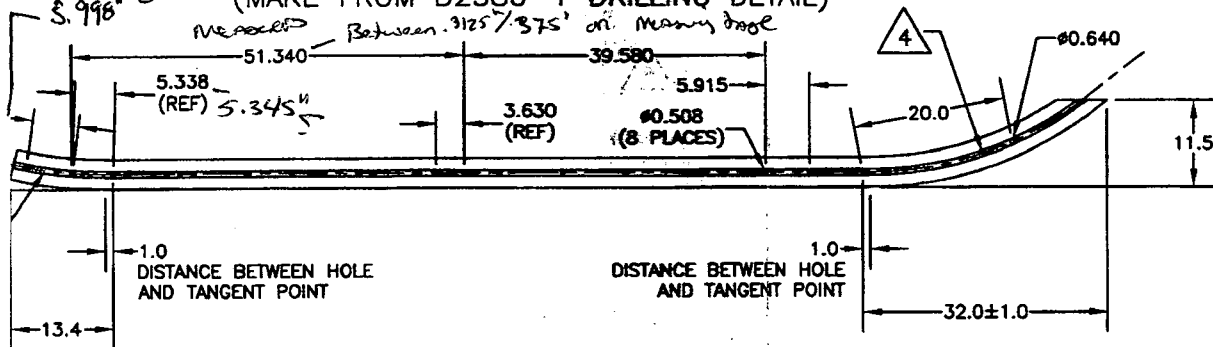
## D2580-1 DRILLING DETAIL



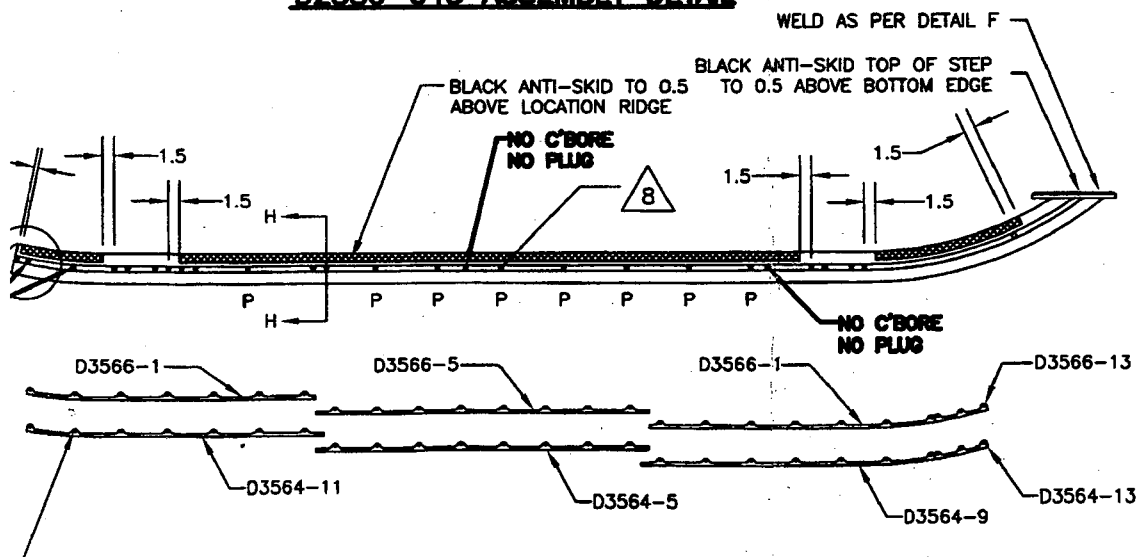
## D2580-5 BENDING AND CUTTING DETAIL

(MAKE FROM D2580-1 DRILLING DETAIL)

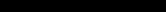


measured - Between .3125" / .375" on many days



## D2580-045 ASSEMBLY DETAIL



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	DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY		SCALE 1:24